REMARKS

This paper is submitted in response to the Office Action dated May 14, 2009. Original claims 1 through 17 are submitted with amendments to claims 1, 7, 8, 9, 10, 11 and 13. No new claims are submitted herewith.

Claim 1 is amended to state that the upstream stage chamber is "defined by an earthed casing comprising a metal or a plastics material impregnated or coated with a metallic material." Support for this is provided at page 13 lines 25 to 31 of the application as filed, where it is explained that the chamber of the apparatus is advantageously comprised of such materials and is "suitably earthed". The Examiner will appreciate that the more conventional term is "grounded" and Applicant will revise the language if the Examiner so requests.

The Examiner has rejected claims 1-17 under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Specifically, the Examiner believes that while claims 1 and 17 both recite a negative limitation requiring there to be no use of an ozone decomposition catalyst, the specification is inconsistent.

More specifically, it is noted that the Examiner has expressed the view that the application describes the use of materials that can act to catalyze the decomposition of ozone. This is incorrect. The application as filed (p. 9, ll. 4-24) refers to the use of titanium dioxide. However, the titanium dioxide is fused into the dielectric to strengthen it. In this form, the titanium dioxide cannot act to catalyze the decomposition of ozone. Hence, it is submitted that there is no inconsistency between the wording of the claims and the specific description.

As noted in the present application as filed, release of ozone outside of an apparatus containing a corona discharge unit is highly undesirable because of the high toxicity of even relatively low levels of ozone, see for example page 1 line 25 to page 2 line 5 of the application as filed. Prior art devices suggest the use of a catalyzer or other means for destroying or trapping ozone produced, before it escapes from the apparatus. Alternatively controlling the action of the fan system or adjusting the construction of the ozone generator is suggested.

In the system of the present application, the low power corona discharge ozone generator (which is in an earthed metal casing) produces substantial quantities of ozone within the treatment chamber (see tables 1 and 2 of the application as filed, page 21), but no significant emissions of ozone outside that chamber. This was the case (see table 2) even when no filter of any kind was placed on the outlet from the chamber. Applicant has had further independent testing carried out to investigate this. A copy of the test results (carried out by Microbial Innovations Limited) is attached.

The test results show that operation of a low power corona discharge device ('CCFT' Airmanager units) produces significant quantities of ozone. 13 ppm of ozone was detected in the laboratory immediately when switching on units contained in an open cardboard (i.e., not an earthed metallic) box. This contrasts with the results shown in the application as filed where the ozone levels outside of the earthed metal casing remain within acceptable safe limits even when operating for 24 hours (page 21 last paragraph). Without wishing to be bound by theory, it is thought that the earthed casing, which acts as a 'Faraday cage', in some way acts to contain the ozone produced by the low power corona discharge device. This is a surprising, but advantageous, result.

Claims 1, 2, 7-10 and 17 have been rejected under 35 USC § 102(b) as being anticipated by U. S. Patent No. 5,055,115 to Yikai et al.

Yikai describes an air cleaner which has an electric precipitating apparatus that employs corona discharge and an ozone removing apparatus downstream of the precipitating apparatus. The ozone removing apparatus has a carbon filter, and is charged with a low positive voltage to remove ozone generated by the precipitating apparatus by chemical conversion to oxygen and carbon dioxide. There is, however, no disclosure of a low power corona discharge ozone generator mounted inside a chamber, the chamber being defined by an earthed casing comprising a metal or a plastics material impregnated or coated with a metallic material, as required by claim 1 as amended. Hence, claim 1 is novel over the teachings of Yikai et al.

Claims 1, 2, 16 and 17 have been rejected under 35 USC § 102(b) as being anticipated by U. S. Patent No. 5,445,798 to Ikeda et al.

Ikeda et al. describes a method and apparatus for generating air ions to sufficiently prevent propagation of microbes adhering to an object by using the air ion without secondary pollution. There is, however, no disclosure of a low power corona discharge ozone generator mounted inside a chamber, the chamber being defined by an earthed casing comprising a metal or a plastics material impregnated or coated with a metallic material, as required by claim 1 as amended. Hence, claim 1 is novel over the teachings of Ikeda.

The apparatus of claim 1 provides significant technical advantageous over prior art devices, especially with regard to containing the ozone produced when purifying air. The apparatus of claim 1 can be safely used even with no filtration of the expelled air and no system is required to moderate the operation of the corona discharge unit (adjusting fans or power output and or providing an ozone trapping system, for example). Thus, the apparatus of claim 1 has an effective, straightforward and safe means of controlling ozone escape that is not taught or suggested in the prior art. Accordingly, it is submitted that the apparatus of claim 1 is inventive.

None of the prior art cited by the Examiner discloses a system having all of the features of claim 1 as now amended. Furthermore there is no teaching in any of the prior art of record that would lead a skilled person to this novel and inventive combination of features.

Claims 3, 5, 13 and 14 have been rejected under 35 USC § 103(a) as being unpatentable over Ikeda et al. and further in view of British Pat. No. 2358350 to Hallam et al. By virtue of the amendment to claim 1, the Section 103 rejection no longer takes into account all of the differences between the claimed invention and the prior art. Since this is a requirement under Graham v Deere, the precedent cited in the Office Action, the rejection is incomplete. Reconsideration is requested.

Claim 4 has been rejected under 35 USC § 103(a) as being unpatentable over Ikeda et al. as applied to claims 1 and 2, in view of Hallam et al. as applied to claim 3 and further in view of Japanese Pat. No. 51103095 with evidence from U. S. Patent No. 4,960,569 to Fovell et al. By virtue of the amendment to claim 1, the Section 103 rejection no longer takes into account all of the differences between the claimed invention and the prior art. Since this is a requirement under Graham v Deere, the precedent cited in the Office Action, the rejection is incomplete. Reconsideration is requested.

Claims 6 and 15 have been rejected under 35 USC § 103(a) as being unpatentable over Yikai et al. and Ikeda et al. as applied to claim 1 above. By virtue of the amendment to claim 1, the Section 103 rejection no longer takes into account all of the differences between the claimed invention and the prior art. Since this is a requirement under Graham v Deere, the precedent cited in the Office Action, the rejection is incomplete. Reconsideration is requested.

Claim 11 has been rejected under 35 USC § 103(a) as being unpatentable over Yikai et al. as applied to claims 1 and 7 above and further in view of U. S. Patent No. 5,290,330 to Tepper et al. By virtue of the amendment to claim 1, the Section 103 rejection no longer takes into account all of the differences between the claimed invention and the prior art. Since this is a requirement under Graham v Deere, the precedent cited in the Office Action, the rejection is incomplete. Reconsideration is requested.

Claim 12 has been rejected under 35 USC § 103(a) as being unpatentable over Ikeda et al. in view of Fovell et al. By virtue of the amendment to claim 1, the Section 103 rejection no longer takes into account all of the differences between the claimed invention and the prior art. Since this is a requirement under Graham v Deere, the precedent cited in the Office Action, the rejection is incomplete. Reconsideration is requested.

In addition to the rejections based on art, Applicant has made a bona fide effort to deal with all of the language objections noted in the Office Action. It is believed that all

inconsistencies and ambiguities have been eliminated and that the claims are now in condition for allowance.

Respectfully submitted,

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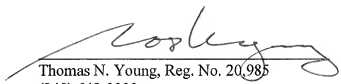

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